A STUDY OF THE TECHNIQUES OF COMMON STOCK ANALYSIS

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Lieutenant Commander, United States Navy

Submitted in partial fulfillment of
the requirements for the degree of

MASTER OF SCIENCE

IN

MANAGEMENT

United States Naval Postgraduate School
Monterey, California

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ABSTRACT

For an individual, investment in common stock should have the goal of maintaining or increasing the individual's purchasing power. This paper reports a study of the fundamental and technical approaches to common stock analysis. The fundamentalist uses inductive reasoning to determine the value of a stock after a study of relevant historical figures. The technician attempts to use the price of the stock as a basis for deductive reasoning concerning value. Technical indexes, indicators and charting are covered. Finally, psychological effects on market prices are reviewed with a discussion of the "Theory of Contrary Opinion" and the "Odd-Lot Theory." It is concluded that each approach to analysis must be carefully evaluated for potential and an investor should remain acutely aware of all techniques and forces which exert an influence in the market.

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CHAPTER I

INTRODUCTION AND OBJECTIVES

Buying and selling of common stocks is an integral and essential element in the functioning of a free enterprise economy. Large scale production means that large amounts of capital must be assembled from many sources. To this end, the corporate form of organization is well adapted. The corporation borrows money by the issue of bonds. The bondholders are its creditors. But before bonds can have any secure value, there must be a basis of property provided by the owners of the corporation.[1] The owners are the holders of the common and preferred stock of the corporation. While preferred stock holders represent ownership, their preferential claim on certain portions of the earnings and upon assets after liquidation limit their risk. Therefore, their return is likewise limited. It is the holders of the common stock who are the risk-takers and the true owners of American business. As the members, New York Stock Exchange put it, "Common stocks ARE America."[2] This paper is concerned only with common stocks although certain of the principles or techniques reviewed may be used to evaluate preferred stocks and debentures which trade in an active market.

Ownership of common stock represents a share in ownership of a business. For the individual, however, common stock is an investment. Any earner who earns more than he spends is automatically an investor.

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[1] Charles Amos Dice and Wilford John Eiteman, The Stock Market (Third Edition; New York: McGraw-Hill Book Company, Inc., 1952), p. 1.

[2] Don Herold, $40 and I'm an Owner of Common Stocks (New York: Members, New York Stock Exchange, 1961), p. 2.

His earnings remaining after spending become an investment whether he deposits them in a bank, buys common stock or buries them in the ground. The real objective of investment is "to store excess current purchasing power for future use."[3] An earner who buys common stock may be called an investor, a speculator or a trader. In the idiom of the stock market, these names have a connotation of the amount of risk taken and the length of time that a stock is held. The investor buys stock for the long pull with safety of capital, regular return from dividends, and modest capital gain as goals. The speculator takes a larger risk and invests for the amount of time required to show an adequate profit considering the risk involved. The trader is a speculator taking larger risks and generally operating on a day to day basis, in and out of various stocks quickly.[4] In truth, all those who invest in common stocks are speculators with slightly different objectives and viewpoints. Any investment is a speculation on the future. This paper will use the term "investor" to mean a person investing in common stock. The goals of investment should always be to maintain or increase buying power regardless of the length of time required.

With any stock at any time, and indeed, with the market itself, each person applies preconceived notions concerning historical high or low value. This permits all variables about a stock to be expressed in terms of a fixed price at an instant of time in the market. For every buyer there is a seller and these two must hold divergent views of the value of the

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[3] G. M. Loeb, The Battle for Investment Survival (Third Edition; New York: Simon and Schuster, 1957), p. 9.

[4] The Language of Investing, A Glossary (New York: Members, New York Stock Exchange, 1960), pp. 15-16, 30, and 33.

stock in relation to the price asked or bid. Competitive raising of bids and lowering of asking prices until an agreement is reached should then produce transactions at prices representing truly free markets.[5] In order to reach such agreement, both the buyer and the seller should have some basis for determining the value of the stock. Analysis of the factors involved, whether fundamental, technical, or psychological, provides this basis.

In order to write about common stocks and the stock market it is essential to employ the vocabulary of Wall Street. This language is often vivid, colorful and flavored with idiom. Quite often a term used in connection with the stock market is simply a word-picutre. This is particularly true in the field of technical analysis. Familiarity with some words or phrases and with the stock market itself has been assumed. The term "stock market" as used herein has a special connotation. Because this paper is restricted to a discussion of common stock, the term "stock market" is meant to encompass all the various markets in which common stock is bought and sold by the public or their representatives. The "stock market" is comprised of the New York Stock Exchange, the American Stock Exchange, the regional exchanges and the over-the-counter market.

It should be recognized that the stock market reflects political, economic, and ethical change. Therefore, certain investment techniques that might have been of significance in the past may no longer be usable.

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[5] John C. Clendenin, Introduction to Investments, (Second Edition; McGraw-Hill Book Company, Inc., 1955), p. 216.

It is also true that increasing knowledge in many fields could contribute substantially to stock analysis. While there is no sure-fire formula for making money by investing in common stocks, it is equally obvious that no one method of investment analysis can or should satisfy everyone. As a student of the market, an investor should obtain a working knowledge of the various approaches to stock analysis. Within the scope of the research for this paper, no single source contained accurate information on all of the techniques and factors of investment covered herein.

Thorough analysis of common stocks can be an extremely complex task. It is not the purpose of this paper to provide a short cut to investment techniques or to cover all possible variations of these techniques. Instead, this paper is written for those with a basic knowledge of the market and has the following objectives:

a. To present a review of the fundamental and technical methods of common stock analysis most commonly used at the present time.

b. To present the writer's view of some of the strengths and weaknesses of these techniques.

c. To make an evaluation of the usefulness of the fundamental and technical approaches to analysis recognizing that new knowledge about market psychology, use of computors, and institutional demand should affect investment decisions.

Two general approaches to common stock analysis are reviewed. These are the fundamental and technical approaches. Each of these is concerned with the past, present, and future of any stock being considered. The fundamentalist concerns himself with available, relevant facts about the

nature of the business, operating results, financial position, and the overall state of the economy.[6] The technician looks at stock price action in the market as a true reflection of what is known and what is happening within a company.[7] The fundamental and technical approaches each have strong advocates and it is felt that these approaches reflect certain personality behavior which is a psychological force in the market that has thus far defied objective measurement.

Research for this paper revealed that the field of stock analysis is well documented and diverse viewpoints are represented. Most of the writers admitted that final selection of a stock for investment was more of an art than a science.[8] Three sources of information contributed the most to this paper. The fundamental viewpoint was presented in a very professional fashion by Graham, Dodd and Cottle in their book, Security Analysis.[9] The Dow Theory and basic technical studies were found in the book, Technical Analysis of Stock Trends, by Edwards and Magee.[10] The

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[6]Benjamin Graham, The Intelligent Investor (Second Edition; New York: Harper and Brothers Publishers, 1959), p. 125.

[7]James Dines, "Point and Figure," Barrons, (June 18, 1962), p. 1.

[8]For example, see Benjamin Graham, David L. Dodd, and Sidney Cottle, Security Analysis (Fourth Edition; New York: McGraw-Hill Book Company, Inc., 1962), p. 24.

[9]Ibid. pp. 1-754.

[10]Robert D. Edwards and John Magee, Technical Analysis of Stock Trends (Fourth Edition; Springfield: John Magee, 1958), pp. 1-462.

primary source of Point and Figure technique was the writings of James Dines who sells a weekly subscription service.[11] One of the more interesting facts about Mr. Dines is that he firmly believes (and advises) that fundamentals and charts should both be used by an investor. This viewpoint was extremely helpful in carrying out this study. The bibliography for this paper is not intended to be all inclusive on the subject of stock analysis or investment. Rather, it is selected and lists those writings which contributed substantially, either explicitly or implicity, to the research conducted.

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[11] James Dines, "The Dines Letter," (New York: James Dines and Company, Inc.).

CHAPTER II

FUNDAMENTAL ANALYSIS

The stock market fundamentalist depends on compilations of figures. In order to make a fundamental analysis of value, it is necessary to examine auditor's reports, profit and loss statements, balance sheets, dividend records and the policies of the companies under consideration. In addition an analysis is made of sales data, managerial ability, plant capacity and competition or market position. To place these factors in perspective, the fundamentalist turns to money rates, bank and treasury reports, production indexes, price statistics and crop forecasts. From these historical and current figures, the fundamentalist estimates the future potentials of a security.[1] If a stock is currently selling below appraised value, it can be regarded as a buy. Such an analysis would require time and skill not possessed by the average investor. This problem is solved in part by the functioning of full time Security Analysts who offer investment advice through news-letters or subscription market letters and publications. It is left to the individual investor to make use of such advice for investment. The problem of selecting suitable sources of advice then becomes nearly as great as that of selecting suitable stocks. An example of one of the more commonly used sources of information, a Standard and Poor's Corporation stock report, front and

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[1] Benjamin Graham, David L. Dodd, and Sidney Cottle, Security Analysis (Fourth Edition; New York: McGraw-Hill Book Company, Inc., 1962), pp. 24-35.

back, is shown in figures 1 and 2. This report, which is available on all listed stocks and many unlisted stocks, shows the type of fundamental information useful in an analysis. A copy of such a report can normally be obtained from any broker. In addition, many brokerage houses conduct research activities making the results available to customers. Although the investor can obtain many reports and recommendations, it remains difficult to secure all the information desired for a complete fundamental analysis and even more difficult to properly interpret the information that is available. This is viewed as a weakness in the purely fundamental approach.

The fundamental approach to investment analysis not only offers historical data for consideration but further provides for projections of future performance based on the past. To determine value, the individual investor must choose what is important and what is desired in an investment. These desirable features can then be used as a guide in investment decisions. The fundamental approach to common stock value normally directs special attention to present and future safety of principal, earnings, dividend yield, leverage, book value and price-earnings ratio.[2]

In its simplest form, safety of principal as a basis for intelligent investing refers to "adequate safety with reasonable income."[3] Safety of principal is most associated with the quality of an investment and is

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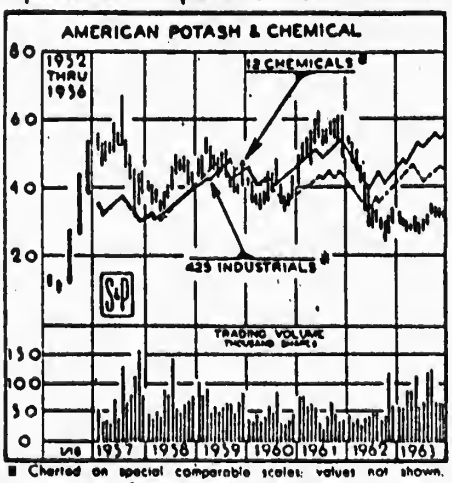
[2]John C. Clendenin, Introduction to Investments (Second Edition; New York: McGraw-Hill Book Company, Inc., 1955), p. 305.

[3]David F. Jordan, Jordan on Investments (Fourth Edition; New York: Prentice-Hall, Inc., 1942), p. 251.

American Potash & Chemical

Stock—	Approx. Price	Dividend	Yield
COMMON	33¾	[3]$1.20	[3]3.5%

RECOMMENDATION: This medium-sized producer of boron and potash products, and electrochemicals instituted a heavy capital expenditure program in 1960. Increasing competition and costs and delays related to expansion have hampered recent results. However, the capital building program is nearing completion, and benefits to be derived therefrom are expected to be important. The shares merit retention.



■ Charted on special comparable scales; values not shown.

[3]SALES (Million $)

Quarter:	1963	1962	1961	1960	1959
March.....	11.93	11.44	11.16	13.23	12.67
June.....	14.20	12.41	11.62	13.20	15.05
Sept.....	13.71	11.48	11.08	11.83	13.53
Dec.....		11.52	12.10	12.29	13.37

Sales for the nine months ended September 30, 1963, rose 10% from those of the corresponding period in the preceding year. Sales of electrochemicals, boron, and salt cake contributed importantly to the advance. Margins widened, aided by the higher sales, a more profitable product mix, and improved operating efficiency. Operating income (after depreciation and including pretax income from Trona Railway Company) was up 12%. Despite a smaller increase in interest expense, the gain in pretax earnings was held to 9% by a fall in other income. After higher taxes at 35.5%, against 32.6%, and a larger minority interest in the 1963 period, final net income was up 4.3%. Earnings were equal to $1.27 and $1.21 a share in the respective periods.

[3]COMMON SHARE EARNINGS ($)

Quarter:	1963	1962	1961	1960	1959	1958
March.....	0.30	0.46	0.43	0.54	0.47	0.45
June.....	0.48	0.44	0.47	0.57	0.60	0.47
Sept.....	0.49	0.31	0.42	0.47	0.53	0.40
Dec.....		0.53	0.69	0.60	0.57	0.51

PROSPECTS

Near Term—Sales in 1963 are estimated to have exceeded $52 million, up from $46.8 million in 1962. Earnings are placed at about $1.65 a share, compared with the $1.74 of 1962.

Revenues for 1964 are expected to improve moderately, year-to-year. Benefits should accrue from a generally improved economy. Electrochemical and boron sales probably will advance, and the early outlook for potash sales is satisfactory.

Margins will likely widen, aided by indicated demand prospects and a gradual reduction in costs of production of the evaporation unit at Trona, California. A new unit, completed in 1961, required modifications and was shut down until the latter part of 1963. Even though costs connected with putting the titanium dioxide plant on stream will be a factor, net for 1964 tentatively is projected at least somewhat ahead of that in 1963. Continuation of the $0.30 quarterly dividend is expected.

Long Term—The company's program of substantial capital investment in new and existing areas of activity should result in future growth. The upgrading of primary products, and increased research expenditures enhance the outlook.

RECENT DEVELOPMENTS

American Potash will build a titanium dioxide plant at Aberdeen, Mississippi. Initially, the plant will have a capacity of 25,000 tons annually, expandable to 50,000 tons. The cost will be approximately $13.5 million. Pigments will be available by the 1964 year-end.

DIVIDEND DATA

Under new loan terms, dividends are restricted by formula to earnings plus about $6,000,000; working capital must not be reduced below $10,000,000. Payments in the past 12 months were:

Amt. of Divd. $	Date Decl.	Ex-divd. Date	Stock of Record	Payment Date
0.30...	Jan. 24	Feb. 26	Mar. 1	Mar.15'63
0.30...	Apr. 30	May 27	May 31	Jun. 14'63
0.30...	Jul. 31	Aug. 27	Aug. 30	Sep. 13'63
0.30...	Oct. 31	Nov. 25	Nov. 29	Dec. 13'63

[1]Com. listed N.Y.S.E. & Pacific Coast S.E. Preferred traded over-the-counter. [2]Indicated rate. [3]Incl. Lindsay Chemical.

STANDARD LISTED STOCK REPORTS STANDARD & POOR'S CORP.

Published at Ephrata, Pa. Editorial & Executive Offices, 345 Hudson St., New York, N. Y. 10014
Vol. 31, No. 11 Thursday, January 16, 1964 Sec. 4

Figure 1. The front page of a Standard and Poor's Corporation stock report on American Potash and Chemical Corporation. This part of the report shows sales, earnings and dividend data. A recommendation is made because Standard and Poor's also functions as an advisory service. Reprinted by permission.

INCOME STATISTICS (Million $) AND PER SHARE ($) DATA

Year Ended Dec. 31	Net Sales	% Op. Inc. of Sales	Deprec.	Net Bef. Taxes	[1]Net Inc.	[2]$4 Pfd. Earns.	—[3] [4]Common— [3]Earns.	[4]Cash Generated	Divs. Paid	Price Range $4 Pfd.	Price Range [5][6]Common
1963—	----	---	---	---	---	-----	---	---	1.20	86 -84	34⅜-26¼
1962—	46.85	24.9	5.07	5.92	4.17	98.96	1.74	4.49	1.20	87 -82	54¾-24
1961—	45.96	26.0	4.76	7.28	4.78	107.47	2.01	4.29	1.20	88 -84	62 -41
1960—	50.55	26.9	5.90	8.01	5.16	110.61	2.18	4.88	1.20	89 -83	48½-33⅛
1959—	54.62	25.9	5.87	8.16	5.15	105.70	2.17	4.93	1.10	90¼-89	54⅛-38½
1958—	47.92	23.9	4.98	6.62	4.37	86.29	1.83	4.39	1.00	90 -88	49¾-33⅜
1957—	42.84	26.6	4.34	6.99	4.71	88.85	2.35	4.74	[7]1.00	91 -87	66¾-33½
1956—	41.75	28.1	3.95	7.56	5.10	94.86	2.64	4.90	1.00	97 -88	54½-38¼
1955—	27.73	27.1	2.02	5.77	4.06	71.03	2.45	3.89	0.91	99½-95	44⅛-26¾
1954—	23.63	20.9	1.85	3.54	2.51	30.65	1.53	0.13	0.70	91 -89	27⅞-12⅛
1953—	22.46	20.3	1.79	2.90	2.12	23.65	1.40	3.16	0.70	91½-83	13¾- 9¼

PERTINENT BALANCE SHEET STATISTICS (Million $)

Dec. 31	Gross Prop.	Capital Expend.	Cash Items	Inventories	Receivables	—Current— Assets	Liabs.	Net Workg. Cap.	Cur. Ratio Assets to Liabs.	Long Term Debt	[8][9]($) Book Val. Com. Sh.
1962—	113.18	13.76	4.00	12.73	7.91	25.19	5.91	19.28	4.3-1	20.38	27.28
1961—	99.91	14.93	6.22	10.68	7.07	24.94	6.01	18.93	4.1-1	12.80	26.19
1960—	85.95	7.86	5.95	11.14	7.32	24.94	6.90	18.04	3.6-1	2.13	25.23
1959—	80.71	4.15	5.07	13.36	7.34	26.23	8.42	17.80	3.1-1	2.57	24.23
1958—	77.59	6.43	4.54	14.10	6.27	25.58	11.32	14.26	2.3-1	4.17	23.07
1957—	68.26	6.79	5.13	9.77	5.05	20.45	8.74	11.71	2.3-1	5.71	23.27
1956—	62.49	4.09	8.52	7.14	5.52	21.74	9.50	12.23	2.3-1	7.05	22.59
1955—	55.35	3.04	7.74	4.71	3.85	17.17	5.35	11.83	3.2-1	12.06	20.13
1954—	43.27	1.85	2.64	3.25	2.56	8.70	3.31	5.39	2.6-1	3.86	16.68
1953—	42.91	2.67	2.21	3.23	2.38	7.31	3.25	4.56	2.4-1	3.08	15.43

[1]Class A & Com. in 1953-1957. [2]Divs. paid regularly since 1947. [3]Incl. non-recur. inc. of $0.18 a sh. in 1954, & loss of $0.22 a sh. in 1955. [4]Adj. for 2½-for-1 split in 1956 & stk. divs. of 4% in 1955, & 10% in 1954. [5]Plus 3% stk. [6]As computed by Standard & Poor's.

Fundamental Position

American Potash produces a variety of chemicals derived primarily from the brines of Searles Lake.

Company is the world's second largest producer of boron and leads the nation in: salt cake, ammonium perchlorate, thorium, yttrium, and the rare earths. Boron is used in glass and ceramics, lithium carbonate in ceramic glazes, ammonium perchlorate in solid fuel rockets, sodium chlorate in pulp and paper, potash in fertilizers, manganese dioxide in batteries, and manganese metal in steel.

The company's largest plant is at Trona, on Searles Lake in California. The Los Angeles facility produces boron chemicals, parathion, and butyllithium. Ammonium perchlorate, lithium chloride, and sodium chlorate are made at the Henderson, Nevada, plant. The Aberdeen, Miss., facility manufactures sodium chlorate and manganese metal. Rare earths, thorium, and yttrium are produced at West Chicago, Ill.

Research expenditures are directed primarily to boron products. AFN, Inc. 50% owned, conducts research for the U. S. Air Force on boron hydrides for high-energy applications in the rocket and missile field in pilot facilities at Henderson. The possible use of titanium diboride and lithium in production of aluminum is being investigated.

Wholly-owned consolidated subsidiaries include Trona Railway Co., Searles Domestic Water Co., Searles Valley Development Co., and Three Elephant Borax Corp. American Lithium Chemicals, Inc., and San Antonio Chemicals, Inc., in which the company owns a majority interest, are both inactive.

Bikita Minerals, Ltd., 24.9%-owned, has high-grade lithium-beryllium deposits in Southern Rhodesia.

Dividends, paid each year since 1935 averaged 57% of earnings in 1958-62.

Employees: 1,968. Shareholders: 5,961.

Finances

Expansion of the company's revolving bank credit from $20,000,000 to $30,000,000 was scheduled for 1963. The credit was to be converted to a term loan, repayable 1967-1969. However, effective October 1, 1963, arrangements were entered into to replace this credit through private placement of $20,000,000 of 25-year 4¼% notes and a new $10,000,000 bank credit, with a fixed interest rate of 4½%. A total of $10,000,000 was borrowed under the 25-year notes with the balance to be taken down July 1, 1964. The revolving period under the new bank credit covers five years from October 1, 1963.

Capital expenditures are budgeted for about $18 million in 1964 (from an estimated $8 million in 1963), with much of the 1964 sum to be spent on a titanium dioxide pigment plant. Completion of this plant will end a $50 million expansion program.

CAPITALIZATION

LONG TERM DEBT: $24,154,545.
$4 CUM. PREFERRED STOCK SERIES A: 42,131 shs. (no par); red. at $100 plus divds.
$5 CUM. SPL. PREFERRED: 3,724 shares (no par); red. at $103 thru 1972; then less.
COMMON STOCK: 2,286,052 shs. (no par).

Incorporated in Del. in 1926 as successor to American Trona Corp., organized in 1913. Office—3000 West 6th St., Los Angeles 54, Cal. Pres—P. S. Dunn. Treas—E. W. Shoemaker. Secy—J. W. Keano. Dirs—P. Colefax (Chrmn), F. B. Adams, Jr., L. L. Austin, R. B. Coons, D. S. Dinsmoor, P. S. Dunn, W. J. F. Francis, R. J. Hefler, E. M. Jorgensen, C. R. Lindsay, III, R. J. Sauinier, W. P. Scott, R. E. Vogel. Transfer Agent—Bankers Trust Co., NYC. Registrar—Morgan Guaranty Trust Co., NYC.

Figure 2. The back page of the Standard and Poor's report on American Potash. Income statistics, balance sheet data, finances, and capitalization are the principle items shown. Reprinted by permission.

attained on any security when the chances are remote that the long-term value will be less than the acquisition price.[4] If the long-term value is recognized to include dividend return and capital appreciation, safety of principal is the true basis for the fundamental approach to investment.[5] Such an approach requires the estimation of future benefits, both in amount and time of receipt. This, in turn, leads to a present value concept of market value. The present value theory states that a reasonable market value of any investment is the total of future benefits expected from it discounted down to the present at a compound interest rate consistent with the risk involved.[6] These statements appear to be fully logical. However, because risk can change radically as new competition and new developments enter the picture, the investor is forced to exercise exceptional judgment in the evaluation of an investment. The patience required of an investor waiting for the market place to vindicate his judgment of a stock serves to place safety of principal in a special context. There are many instances where opportunity for relatively rapid capital appreciation will, if successful, provide the maximum safety of principal.

When making a projection of earnings in analysis of a common stock, the fundamentalist is attempting to determine the probable trend of these earnings. Obviously, if earnings can be expected to decrease, the stock should be sold. If earnings should remain absolutely stable, the common stock would essentially become a fixed income security similar to a

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[4] Douglas A. Hayes, Appraisal and Management of Securities (New York: The MacMillan Company, 1956), p. 53.

[5] Clendenin, op. cit., p. 24.

[6] Ibid.

preferred stock and therefore change price only in relation to the rate of return available in comparable investments. It is the discovery of stocks with increasing earnings that is important to an investor. Considering the variance of the economy, the effects of technological change, and the ever changing picture of competition, estimates of future earnings should be expected to be subject to considerable error. All the aspects of fundamental analysis are essentially directed toward judging the trend of future earnings.

There is one view of fundamental analysis that assumes dividend paying ability as a measure of quality and therefore of value.[7] As has been pointed out, it is earnings that stand behind dividends. However, it must be remembered that the only return to an investor is through dividends and the market price of the stock. Normally, price fluctuations are large enough to negate much of the value of dividends but such payments are a definite part of fundamental analysis. One particularly interesting aspect of dividend yield is provided by considering the dividends available on common stocks which pay a low percentage yield but use retained earnings for growth which enables them to increase dividend payout over time. Whereas declining earnings will usually result in dividends being reduced or omitted, rising earnings enable a company to increase dividend payout although the percentage paid out may remain low. An extreme example of this situation is International Business Machines (IBM) which has consistantly paid dividends which represent a low percentage yield. In 1949, IBM had a closing price of $24 per common

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[7] Arnold Berhard, The Evaluation of Common Stocks (New York: Simon and Schuster, 1959) p. 41.

share and paid a 43 cent annual dividend for a yield of only 1.75 percent.[8] The indicated dividend for 1964 is $5.00 per share which represents a yield of less than one percent, IBM being over $500 per share in price. However, for the investor who has owned IBM since 1949, the 1964 dividend represents better than twenty percent yield. Other stocks which may have consistently had higher dividend yields have reduced dividends payments thereby reducing this form of return to the long term investor.[9] Although dividends are an important factor in fundamental analysis, care must be exercised in evaluating the worth of these distributed earnings.

The price-earnings ratio is simply the market price of the stock expressed as a multiple of the per share earnings of the corporation. After examining statistics to determine the value of a common stock and making a projection of earnings into the future. The fundamentalist must consider how the earnings will be valued in the market place. This aspect of fundamental analysis is particularly important. It is in forecasting the price-earnings ratio that the fundamentalist encounters the most difficult aspect of analysis.

In estimating the price-earnings ratio that a stock may have in the market on the basis of projected earnings, the fundamentalist has several considerations. Historical ratios are available in comparing market price with earnings in the past. However, it is normal to find that this ratio has varied considerably over longer periods.[10] An important factor in recent years has been the caliber of management of the companies being

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[8]Graham, op. cit., p. 414.

[9]Clendenin, op. cit., p. 309. Montgomery Ward is offered for comparison.

[10]Ibid. pp. 88-89.

reviewed.[11] Outstanding management generally leads to better than average results for a company. Regardless of the test made of management quality, the fundamentalist must make a subjective judgment. General long term prospects for the company and the economy must also be considered. When the economy has been strong in the past and the mood of the nation is optimistic, price-earnings ratios have tended to rise.[12] Also to be considered is the increasing demand for high quality stocks by institutional investors which has tended to have the secular effect of raising price-earnings ratios for these blue chip stocks.[13] One final reason for higher price earning ratios in the present market is the reflection of a "better quality of earnings." This better quality is primarily due to the internally generated cash flow available to companies through accelerated depreciation charges of higher priced equipment. Using this internally generated cash flow for expansion frees earnings to be paid in dividends or utilized in further expansion making a stronger company. As previously noted, stronger, better managed companies are generally accorded higher price-earnings ratios in the market. The fact that so many variables have to be considered in projecting price-earnings ratios emphasizes the difficulty of this part of fundamental analysis. Indeed, some of the factors needed for such analysis (management quality) are not usually

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[11] Benjamin Graham, The Intelligent Investor (Second Edition; New York: Harper and Brothers Publishers, 1959), p. 133.

[12] Graham, Dodd and Cottle, op. cit., pp. vi-vii and 508-14.

[13] This particular factor and the effects of investor psychology on price-earnings ratios are covered in greater detail in Chapter IV of this paper.

available to the investor except as implicitly derived from past performance. The requirement for the "informed judgment of the expert" serves to reduce the chances of success for the investor.[14]

The functions of fundamental analysis can be described under the three headings of descriptive, selective, and critical.[15] The emphasis placed upon objective, disciplined evaluation of quality or value appears well directed. Although the fundamentalist is often pictured as conservative, this does not imply that the study of fundamentals based on the past will put the investor behind the market. Indeed, fundamental analysis has been described as "a forward looking inquiry."[16] In examining the historical features of a stock for prophetic value, an investor must consider the accuracy and reliability of the figures available to him. The investor should be aware that listed corporations are required to file detailed information with the Securities and Exchange Commission. This information is usually more complete than data released in reports or statements for the general public. The investor should also remain aware of the necessity to consider the overall economic outlook for the firm, the industry, and the nation when reviewing investment decisions. At the very least, a fundamental analysis should make an investor aware of the many factors which could affect an investment. In setting out to make profits from stock purchases and sales, the investor is engaging in a business venture in which every added bit of knowledge has some value. This appears to be the principle reason to undertake such analysis.

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[14]Graham, The Intelligent Investor, p. 129.

[15]Graham, Dodd and Cottle, op. cit., p. 25.

[16]Clendenin, op. cit., p. 303.

It is difficult to find published examples in which a thorough fundamental analysis indicated higher stock prices while the price actually declined drastically. The more common occurrence is to find stocks which appear to have a high potential upon analysis but fail to achieve this potential. American Potash and Chemical Corporation (Figures 1 and 2) has been recommended highly for a number of years. Higher earnings have been forecast by analysts nearly every year.[17] The dividend has been raised three times since 1955. In addition, investor confidence in the management and the potential of the company has been represented by a price-earnings ratio of approximately 20 to 1 which is comparable to many other chemical companies (this would generally be considered a reasonable ratio in that the industry leaders may sell at 30 to 1 or higher.) Despite all this, competition, increasing costs and capital expenditure programs have acted to hold earnings generally below those forecast. The result has been that despite good fundamental analysis, many investors probably own the stock today at a price considerably below their cost. It should also be noted that the opportunity has been presented in several years to gain a handsome return if the stock were purchased near the low and sold near the high. Fundamental analysis recognizes the value of good timing of purchases and sales but, after determining value, does not appear to have an effective tool to aid the investor in making a decision about the timing. The next chapter on technical analysis stresses the importance of timing in investment.

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[17] James Dines, "The Dines Letter," II:17 (New York: James Dines and Company, Inc., November 1, 1963), p. 3. Mr. Dines points out that higher earnings are again forecast and chart indications are that the stock "seems to be turning the corner."

CHAPTER III

TECHNICAL ANALYSIS

Technical analysis of the stock market has assumed several variant forms. Individually and collectively, technicians have derived many styles or methods. However, it is generally recognized that "The Dow Theory is the granddaddy of all technical market studies."[1] Therefore, a perspective on Dow Theory is advisable as groundwork for a study of technical analysis.

A certain vagueness enshrouds the Dow Theory. As economic and market conditions have changed over the years, Dow Theorists have had differences of interpretation. Another factor contributing to these differences is the fact that Charles H. Dow, the original promulgator of the "Theory," did not think of it as a device for forecasting the stock market or even as a guide for investors, but rather as a barometer of general business trends.[2] As the founder of the Dow-Jones financial news service and editor of the Wall Street Journal, Mr. Dow first compiled the Dow-Jones averages and using these averages wrote editorials, outlining the basic principles of the theory. It remained for William P. Hamilton, Dow's successor as editor of the Journal to organize and formulate these editorials into the Dow Theory. In this work, Mr. Hamilton was aided and his

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[1] Roberts D. Edwards and John Magee, Technical Analysis of Stock Trends (fourth edition; Springfield: John Magee, 1958), p. 11.

[2] Ibid. Also see Daniel Seligman, "Playing the Market with Charts", Fortune's Guide to Personal Investing (New York: McGraw-Hill Book Company, Inc., 1963), pp. 158-59.

work embellished by another writer, Robert Rea.[3]

The Dow Theory, being ultimately technical in nature, has as a basic tenant that the averages discount everything (except "Acts of God"). In application, the Dow Theory recognizes three market trends, major or primary, intermediate or secondary, and minor. Primary trends are broad movements which usually (but not invariably) last for more than a year and may run for several years. Secondary trends interupt but do not entirely cancel primary trends and last for periods of three weeks to three months. Minor trends are brief market fluctuations counter to the prevailing trend which last six days to three months. In considering these trends, the action of the sea with tides (primary trends), waves (secondary corrections), and ripples (minor fluctuations) provides a vivid analogy. There are three other generally recognized rules of the theory. The first is that a trend must be assumed to continue in effect until a reversal has been signaled. This refers to the primary and secondary trends generally. The second rule states that volume goes with the trend, that if the trend is up, rising prices will bring increasing volume with the reverse also

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[3]Seligman, op. cit., p. 159. In addition to refining the Theory, it has been necessary to change the stocks constituting the averages. The industrial average was begun in 1897 with only 12 stocks and was raised to 20 in 1916 and to 30 stocks in 1928. Of interest when discussing whether the industrial average is too high or if some specific number in the average has special meaning (the 1000 level) is the absence of IBM from the average. IBM was removed from the average in 1939. If this stock had remained, the average would be well over 1000 today. See T. A. Wise, "Keeping Up with the Dow-Jones," Fortunes Guide to Personal Investing, p. 186-88.

true. The third rule is the most controversial and states that the two averages (Dow-Jones Industrials and Dow-Jones Rails) must confirm. Since the Dow Theorist invests with the primary trend, he is most interested in knowing the direction of the primary trend and recognizing secondary corrections for what they are. Therefore, the averages confirm an up-trend when both reach new highs without one average going below a point which previously marked the end of a decline. This single rule of confirmation has been most often questioned and is recognized as the most difficult to rationalize of all the Dow principles.[4]

Technical interpretations appear in many forms and are called by many names. The techniques used and their names are subject to individual inclination. However, there are certain common techniques, indexes, and indicators which are recognized. In charting, bar charts and point and figure (P & F) charts are most commonly used.[5] Within these classifications, many time schedules, scales and relations or ratios may be utilized to portray the information desired.

The Dow-Jones Industrial Average is often charted and used simultaneously as an index. Other popular indexes which may or may not be charted are the advance-decline index, a confidence index, a high-low index and a disparity index. Technical indicators represent the widest possible divergence of opinion among technically oriented analysts. The gamut

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[4]This explanation of the Dow Theory was taken primarily from Edwards and Magee, op. cit., pp. 11-21.

[5]James Dines, "Point and Figure," Barrons, (June 18, 1962), p. 1.

of indicators ranges from the size of brokers' loans (which some may consider fundamental in nature) to short interest figures (which many consider primarily psychological in nature).[6] The approaches covered below are primarily those used by the more widely known technicians of the present.

Although the technical approach uses the price of a stock to deduce value, this cannot be a static analysis at an instant of time. For analytical purposes, a single price without any other information is useless. In order to make an analysis, a technician attempts to obtain as much information as possible about what is actually occurring in the market. To keep a running record of this technical data, the technician relys primarily on charts. For this reason, technicians are often called chartists. Once the charts are made and relevant technical data assembled, it is only necessary for the technician to figure out what the chart configurations and data mean. Pure technical analysis is the science of recording, usually in graphic form, price and volume transactions and then deducing from the picture the probable future trend.[7]

Charting was generally in bad repute during the 1920s and early 1930s. During this period, it was most often associated with stock manipulations since the manipulators needed a tool to keep track of price and volume activity while controlling pooled stock prices with a minimal investment.

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[6] James Dines, "The Dines Letter," II:10 (New York: James Dines & Company, Inc., September 13, 1963) p. 1. Mr. Dines states that his assignments of indexes and indicators to categories may be arbitrary but this is unimportant in looking for comprehensive analytical techniques.

[7] Edwards and Magee, op. cit., p. 5.

At the same time, a few traders used charts in an attempt to detect manipulations.[8] The tools of such "high rollers" did not gain the favor or respect of those whose stock in trade was respectability and serious investment. However, recognition that stock prices appeared to move in trends, that certain patterns appear which can be related (even after the fact) to accumulation or distribution in accordance with a broad interpretation of the laws of supply and demand, brought new disciples into the field.[9]

Bar charts are the simplest form of stock charts.[10] Also called the high-low (Hi-lo) type, bar charts use a price scale on the vertical axis and a fixed time scale on the horizontal axis. A record of the price range (high and low) and the closing price is plotted on the chart for each period, day, week, or month, desired. A chart of volume of shares traded each period is usually added at the bottom of such a chart. The Dow-Jones Averages appear daily in bar chart form in the Wall Street Journal. These charts are kept on an arithmetic scale in which equal distances on the vertical scale represents equal amount in points. In charting a stock, equal distances on the vertical axis represent equal amounts in dollars.

However, because of the importance of percentage changes to the technician, it has become more common to plot bar charts of stock on

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[8] Seligman, op. cit., p. 156.

[9] Ibid. p. 157.

[10] Edwards and Magee, op. cit., p. 7.

semi-logarithmic paper.[11] On this paper, equal distances on the vertical (price) scale represent equal percentage changes. Figure 3 is an example of a semi-logarithmic bar chart of Cambel Chibougamou Mines Trendlines have been added to this chart and are discussed below after the explanation of point-and-figure charts.

The point and figure (P & F) chart is quite different from a bar chart. Although price is expressed vertically, time is not divided into regular intervals. P & F technicians feel that significant patterns may take months or even years to develop and that their identity is obscured on a bar chart. To make the patterns clearer, they are compressed on a P & F chart. When the price of stock is moving in one direction, the record of price changes is made by plotting x's in a vertical line up or down. When the direction of movement changes significantly (one full unit on the vertical scale), a move is made one column to the right and another row of x's started.[12] Volume is not charted although it is sometimes used to reinforce the opinion of the chartist. P & F is described as a study of fluctuation as a function of supply and demand.[13] Figure 4 is a P & F chart of Control Data Corporation. Trendlines are entered

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[11] Ibid., pp. 8-9.

[12] Seligman, op. cit., p. 167. For practical considerations a letter symbol is entered instead of an x to represent the first day of each month (i.e., "D" for December) and the year is noted on the bottom of the chart.

[13] Dines, "Point and Figure", p. 1. This article contains a detailed description of constructing and interpreting a P & F chart.

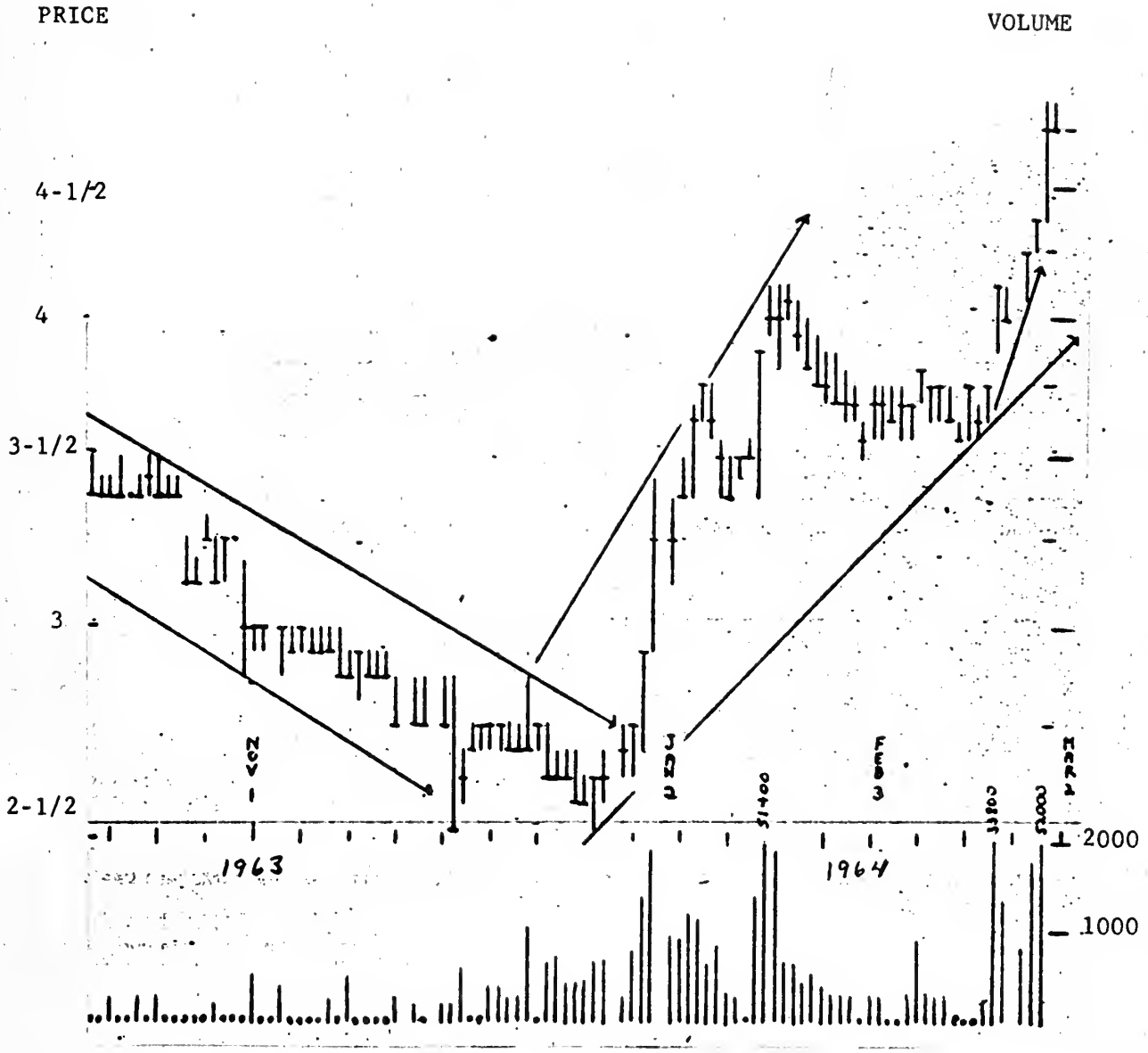

Figure 3. A daily semi-logarithmic bar chart of Cambell Chibougamou Mines with a chart of volume at the bottom. Trendlines are indicated. The formation occurring between November and January is interpreted as a double bottom reversal. Chart reproduced by permission of James Dines & Company, Inc.

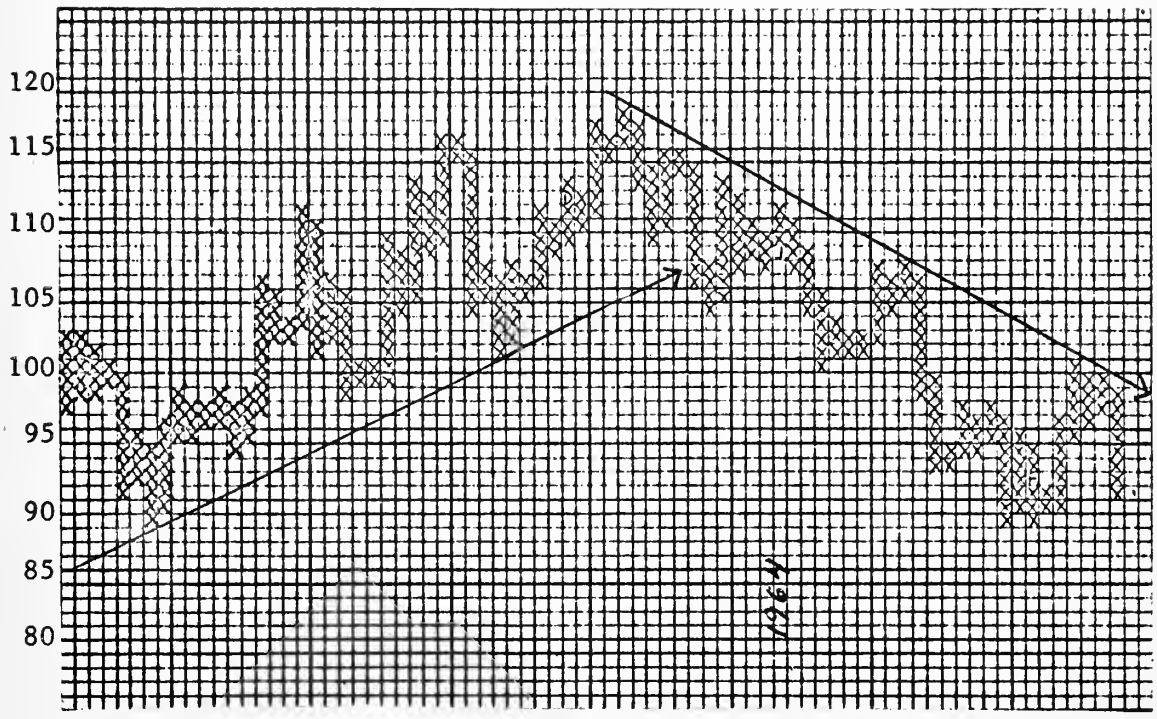

Figure 4. A one point, Point and Figure chart of Control Data Corporation for the latter part of 1963 and early part of 1964. Trendlines have been added. Chart reproduced by permission of James Dines & Company, Inc.

on this chart.

One of the more important uses of charts to technicians is to detect trends. Analysis of the past shows that stock prices move in trends and tend to continue until something happens to change the supply-demand balance.[14] Trendlines are used to graphically portray trends. A line drawn to touch two or more ascending bottoms constitutes a valid uptrend.[15] Similarly, a line drawn through descending tops constitutes a downtrend. When the price of a stock actually penetrates a trendline, a trend reversal is indicated. If a stock has been in a downtrend, rising prices which caused a penetration of this trendline would indicate a reversal and an upward price movement could be expected. Such an upward price movement would provide a "buy" signal only after forming a valid uptrend. Interpretation of such a breakout can be extremely difficult.[16]

Even in a well defined trend, stock prices tend to move up and down to some extent. If, while a stock is in an uptrend, a line can be drawn through successive tops and is parallel to the uptrend line an upchannel is created. A move out of such a channel indicates a climatic move to be followed by a reversal.[17] A channel formed on a P & F chart is of

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[14] Edwards and Magee, op. cit., p. 6.

[15] Dines, "Point and Figure", p. 1.

[16] See the discussion of consolidation patterns which follows later in this chapter.

[17] Ibid. On page 15 of this article Mr. Dines also states that "when an uptrending stock on P & F charts rises vertically in one column for a distance that is large in terms of its history, there will normally be a Technical Correction for a decline of 30-50% of the entire advance." Although such a decline may occur suddenly and will seldom be the start of an important decline, interpretation is acknowledged to be difficult. Such a stock may or may not have penetrated an upchannel. The main point made is that the stock can be held during any accelerated rise but should be sold immediately when the new uptrend is violated.

greater significance than a channel on a bar chart because the P & F chart disregards time, thus forming a pure configuration which a bar chart would not show.[18] Figure 5, a P & F chart of the Dow Jones Industrial average for 1963 and 1964 shows an upchannel.

One important aspect of trendline analysis recognizes the secondary and minor trends of the Dow Theory. Short term downtrends can occur in a stock with a longer term uptrend. These short term downtrends may penetrate an uptrend line but when the downtrend ends, the only effect has been to form a new, less steeply pitched uptrend line. Figure 6, a P & F chart of the Dow-Jones Industrial Average from February 1961 to May 1962 clearly shows this deceleration of the uptrend with less steeply pitched uptrend lines and the indications of the downtrend which subsequently occurred. The important factor to a chartist is that while the short term downtrend was in effect, it was the ruling trend and would continue until the chart showed graphic proof that a new uptrend had taken over. Figures 5 and 6 show several short term trends within longer term trends.

Reversals occur when trends come to an end. However, before a stock turns around, its price movements will usually form one of a number of "reversal patterns" on the chart. The basic assumptions made about reversals is that a rising price calls forth an increasing supply of stock which is absorbed with varying degrees of success by demand. A decreasing price would appeal to increasing demand with less supply forcing a reversal. Unfortunately, the patterns formed are not all clearly defined and catalogued. Each technician is free to make his own pattern interpretation and even to assign a name of his choosing to the pattern. In

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[18] Ibid.

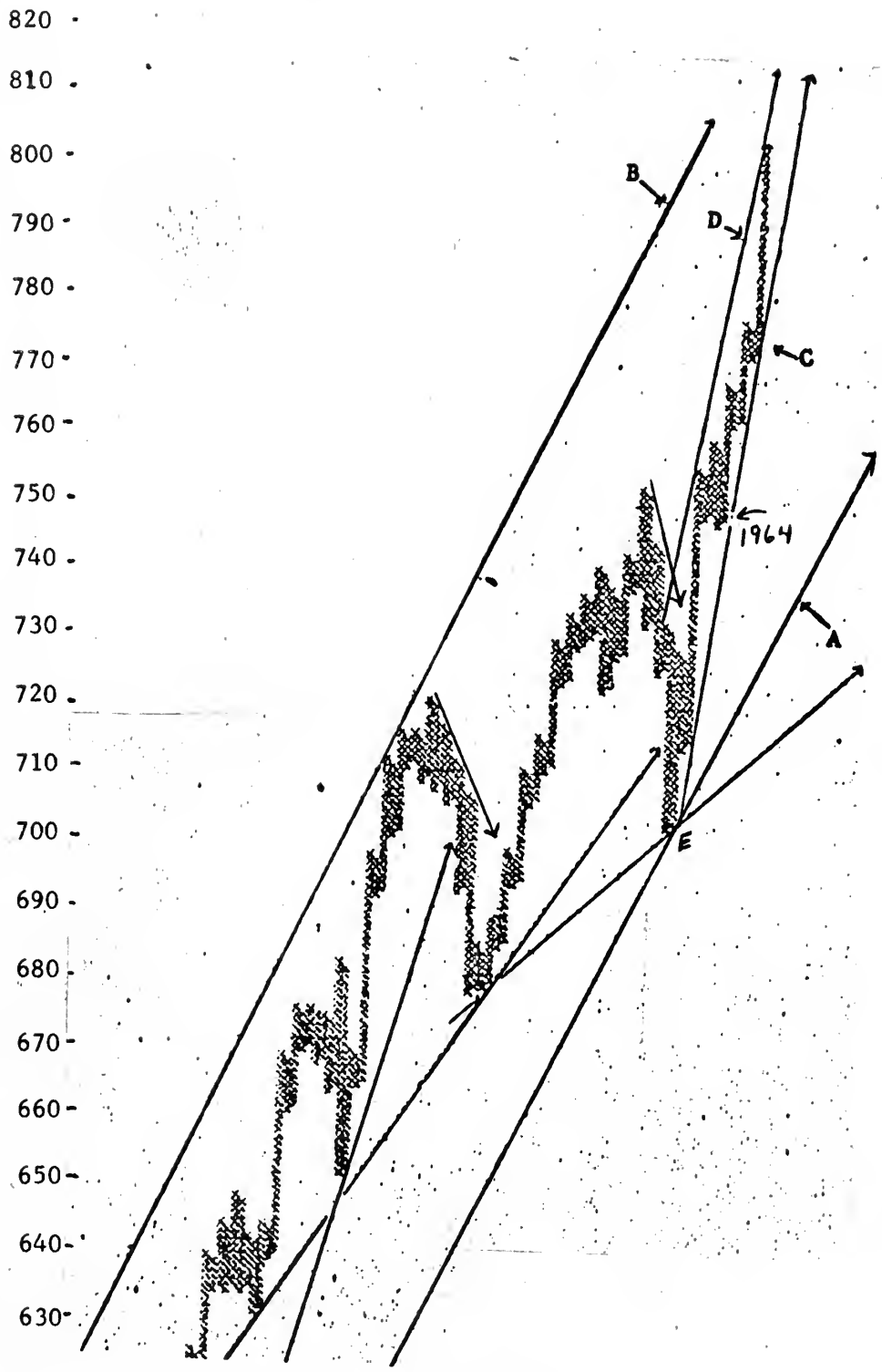

Figure 5. A five point, Point and Figure chart of the Dow-Jones Industrial Average for all of 1963 and early 1964 based on hourly changes. Note the uptrends and downtrends marked. Lines A and B form an upchannel. Lines C and D indicate an uptrend within the upchannel. Point E represents the low point reached when President Kennedy was assassinated November 22, 1963. Chart reproduced by permission of James Dines & Company, Inc.

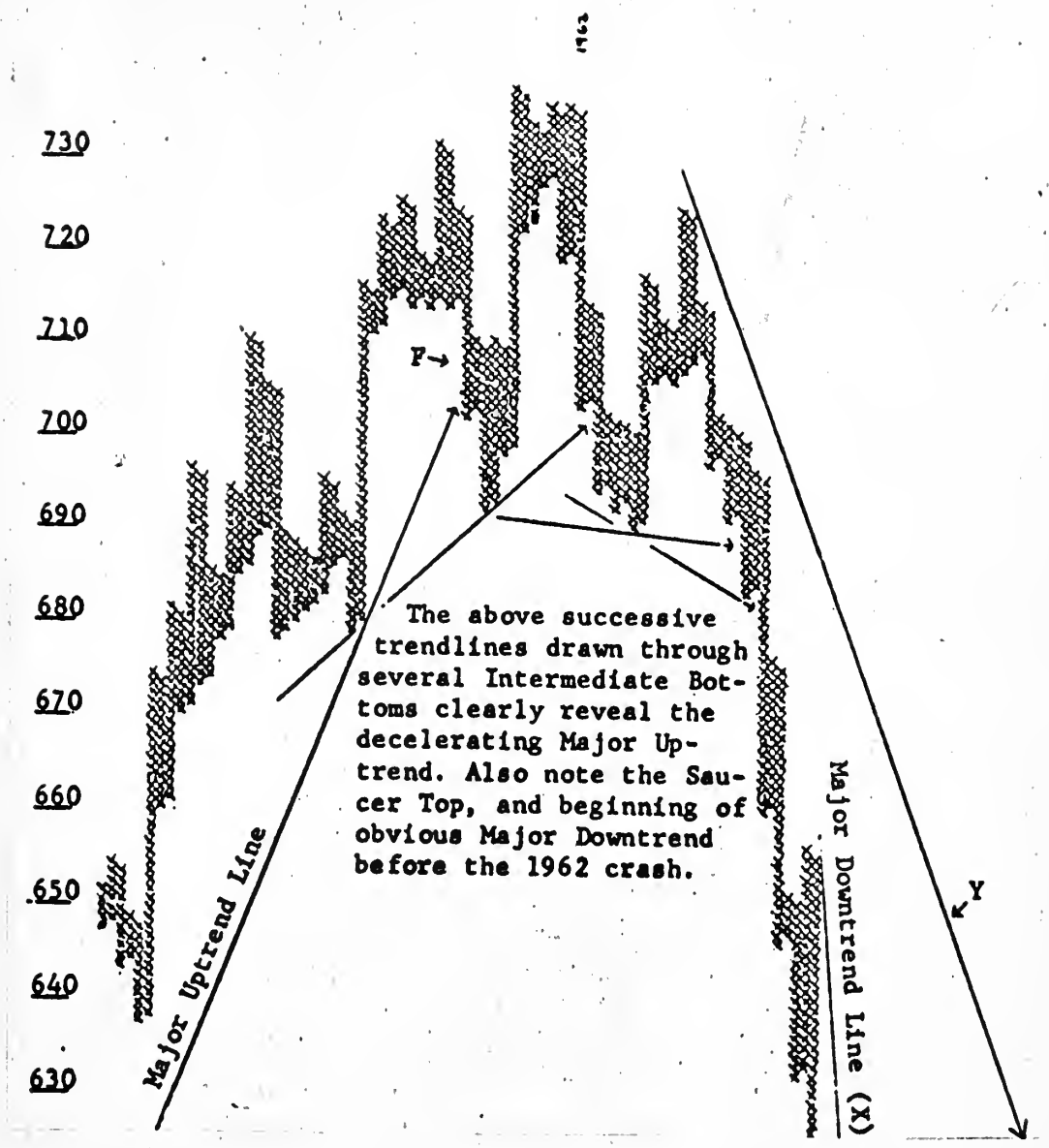

Figure 6. A five point, Point and Figure chart of the Dow-Jones Industrial Average from February 1961 to May 1962 based on hourly changes. Note the major uptrend which was penetrated at point F. The less steeply pitched uptrend lines indicate the topping out of the market in late 1961 and early 1962. The major downtrend line X was not penetrated until after the market had reached a low below 530 and rebounded to 560. The downtrend line Y at a more moderate angle was formed by the recovery during the summer of 1962 but was not penetrated until after October 1962 when the market began the present uptrend. The market top is termed a saucer top. Chart reproduced by permission of James Dines & Company, Inc.

addition, bar charts and P & F charts show different patterns on the same stock. One reversal pattern, the "spearhead" top or bottom is seldom seen on a bar chart but does appear on a P & F chart quite clearly.[19] Figure 7 is an example of a spearhead top in Syntex Corporation.

For the most part, the names assigned to reversal patterns are descriptive and nearly self-explanatory. Double and triple tops and bottoms, rounded tops and bottoms, rectangles, triangles, and diamonds are all well defined by technicians. Figure 1 shows a double bottom formation. Figure 6 shows a saucer top which is the name applied to a rounded top on P & F charts. One of the better known reversal patterns is the "Head and Shoulders" reversal.[20] A nearly perfect example of a head and shoulders top is shown in Figure 8. However, there may be several "shoulders" and more than one "head" in such a pattern. It is a dismaying fact to the investor that many of the patterns could be and are defined by different technicians as different patterns. Worst of all, what appears to be a reversal pattern may turn out to be a "consolidation" pattern where supply and demand are well matched but a continuation of the trend does occur after a breathing spell.

Consolidation patterns, also known as "congestion areas" are named but in much less rigorous fashion than are reversals. A stock "acts well" for a chartist if it obeys the rules of his discipline and consolidates within trendlines so these trendlines are not penetrated. However, a stock in an uptrend that consolidates by moving up and down, even in a

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[19] Edwards and Magee, op. cit. p. 48. Also, James Dines, "The Dines Letter," II:29 (New York: James Dines and Company, Inc., January 31, 1964), p. 4.

[20] Edwards and Magee, op. cit., p. 50.

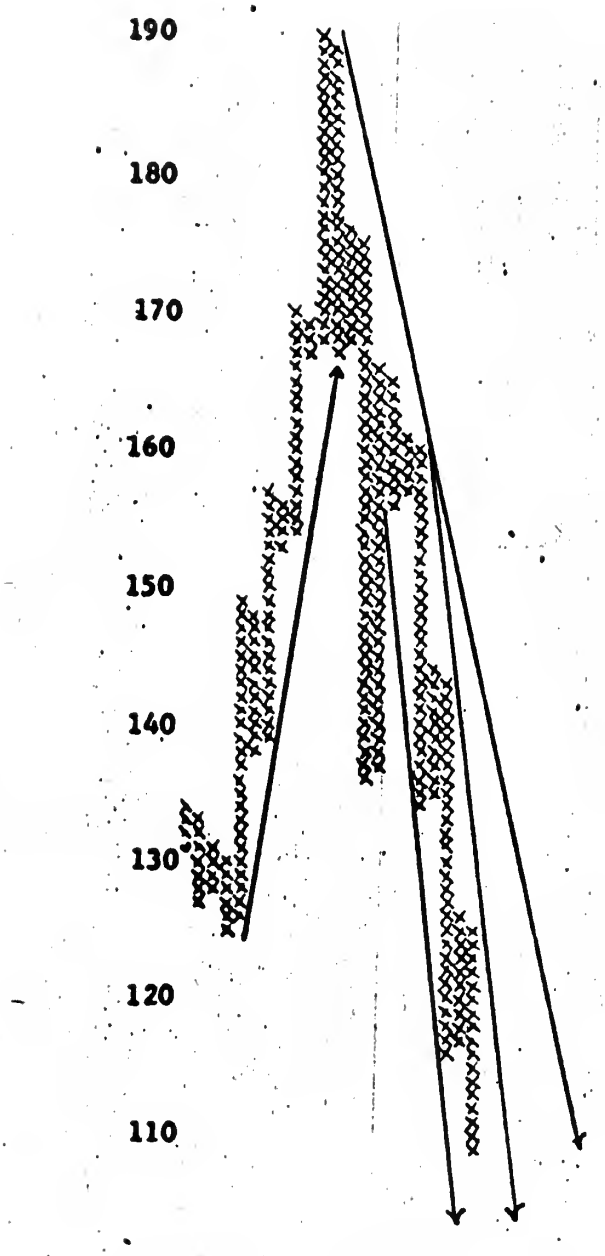

Figure 7. A one point, Point and Figure chart of Syntex Corporation showing the "spearhead top" which occurred in 1964. Chart reproduced by permission of James Dines & Company, Inc.

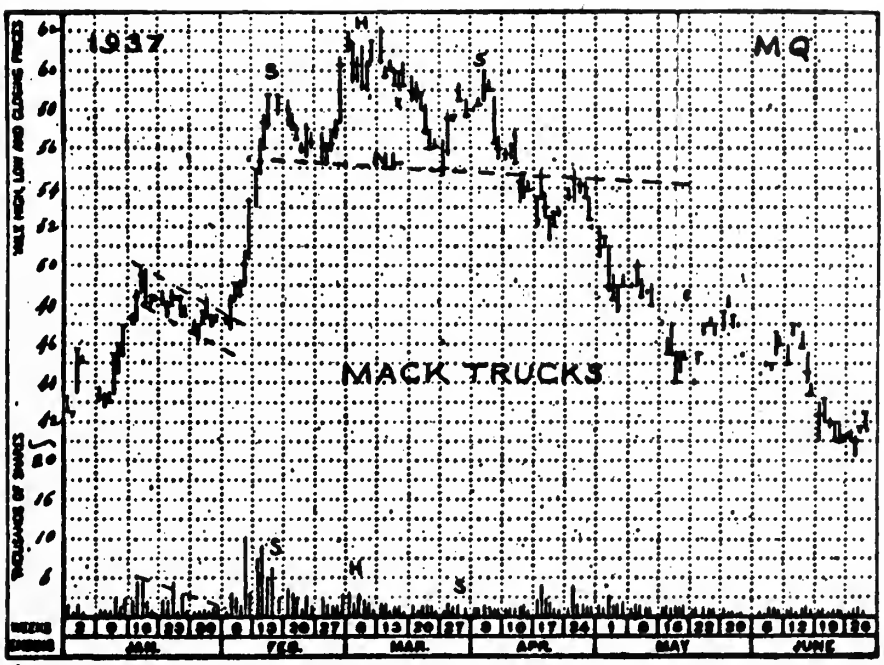

Figure 8. A bar chart of Mack Trucks, Inc., for 1937 showing a "head and shoulders" reversal pattern. The head (H), shoulders (S), and neckline (NL) are indicated. Note that an arithmetic scale is used. The volume chart at the bottom indicates the typical pattern which accompanies a head and shoulders top. The formation outlined in January is a consolidation pattern known as a "Flag". This chart reproduced from Technical Analysis of Stock Trends by Robert D. Edwards and John Magee, published by John Magee.

narrow limit, will eventually move to the right on both bar and P & F charts breaking the uptrend line. The first penetration of a trendline may or may not mark a breakout. "A false breakout is the curse of the chartist and the main thing that thwarts a perfect system" according to one well known technician.[21] At the least, technicians feel such a breakout is a caution signal that improves the odds of being right.

An actual reversal of the trend and a breakout leaves behind what the technician calls "resistance" or "support" areas. A resistance area, also known as a supply area, is a point at which the advance of a stock has been historically stopped. For instance, Allis Chalmers was stopped at the 40-42 level four times (1929, 1937, 1955, and 1960).[22] Conversely, a support area has been the low point of previous declines. The more times that a stock has reached a resistance or support area and reversed, the stronger this area is thought to be.[23] The basis for this view is that

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[21]Dines, "Point and Figure," p. 15. One particularly esoteric aspect of P & F analysis is the technique of using the extent of the lateral movement in a congestion area as a clue to the extent of the next major upward or downward movement. The direction of the movement is determined by the breakout. John W. Shultz, a partner in the brokerage firm of Wolfe & Company, is the major proponent of this technique. However, even he does not attempt to explain exactly why such a technique should work except that the size of the congestion area is related to what is happening to the supply of the stock. A discussion of this technique is not included in this paper because of this vagueness and a lack of popularity among technicians. For additional information see Seligman, op. cit., pp. 171-73, 178-79.

[22]Dines, "Point and Figure," p. 1.

[23]Ibid.

those who previously bought stock at the resistance level and have held the stock at a loss as it retreated will attempt to recoup by selling as the stock gets back to the price at which they originally bought. The greater the volume of trading which occurred near the high, the stronger the resistance.[24] A support area is based on the feelings of those investors who previously bought the stock at the support level, felt justified as the stock moved up, and vowed to buy more if the stock ever returned to the level at which it was originally purchased. A support area is reinforced by those investors who sold the stock at some higher level and find their interest rekindled and decide to get back into the stock if they can get it near the previous purchase price. A breakout above a resistance level is very significant for it indicates that supply has temporarily dried up and a substantial rise may be necessary to call forth adequate stock. A breakout below a support area is viewed by the chartist as a prelude to panic selling as everyone tries to get out at once.[25] An example of a break through a support level is provided by Fairchild Camera and Instrument Corporation later in this chapter.

The Advance-Decline Index is a measure of the number of stocks advancing compared to those declining on the New York Stock Exchange. It is a running total of the differences between the number of stocks advancing minus the number declining. Because more stocks have advanced than have declined since 1932, the running total thus computed is currently near 9,000. It must be recognized that this index is simply a number to be compared (usually by being charted) against previous high or low levels

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[24] Seligman, op. cit., p. 166.

[25] Dines, "Point and Figure," p. 15.

attained. This index is then matched against the action of the Dow-Jones Industrial Average and indicates whether or not this average actually reflects internal market conditions. Since the average is made up of only 30 stocks, a move to new highs by the average is more impressive when the advance-decline index also moves upward. This would reflect increasing internal market strength.[26] Figure 9 is a chart of the advance-decline index plotted with a bar chart of the Dow-Jones Industrial average for comparison. In the time period depicted in Figure 9, the divergence between the average and the index was a matter of serious technical concern.[27] Later the index did turn up as the average continued upward.

Although not as widely used as the advance-decline index, the high-low, confidence, and disparity indexes generally find some acceptance from technicians. The high-low index is an absolute measure of the number of new highs made compared to the number of new lows made each week on the New York Stock Exchange. The Confidence index measures the flow of money from high grade bonds to lower grade, more speculative bonds. The theory of the confidence index is that investors will tend to switch from high grade bonds to the lower grade when the economic outlook is highly favorable, taking a larger risk in hopes of greater profit. The disparity index is computed by multiplying the Standard and Poors Industrial Average by 10 and subtracting the Dow-Jones Industrial Average from it. Since the Standard and Poors Industrial Average is representative of many more stocks (425) than is the Dow-Jones Industrial Average (30), this index is another

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[26] John W. Schultz, "Technicians Perspective; A Questionnable Procedure," Forbes, 92:11(December 1, 1963), pp. 66-67.

[27] Bradbury K. Thurlow, "Investment Pointers; A Vulnerable Market, Forbes, 93:4 (February 15, 1964), pp. 52-53.

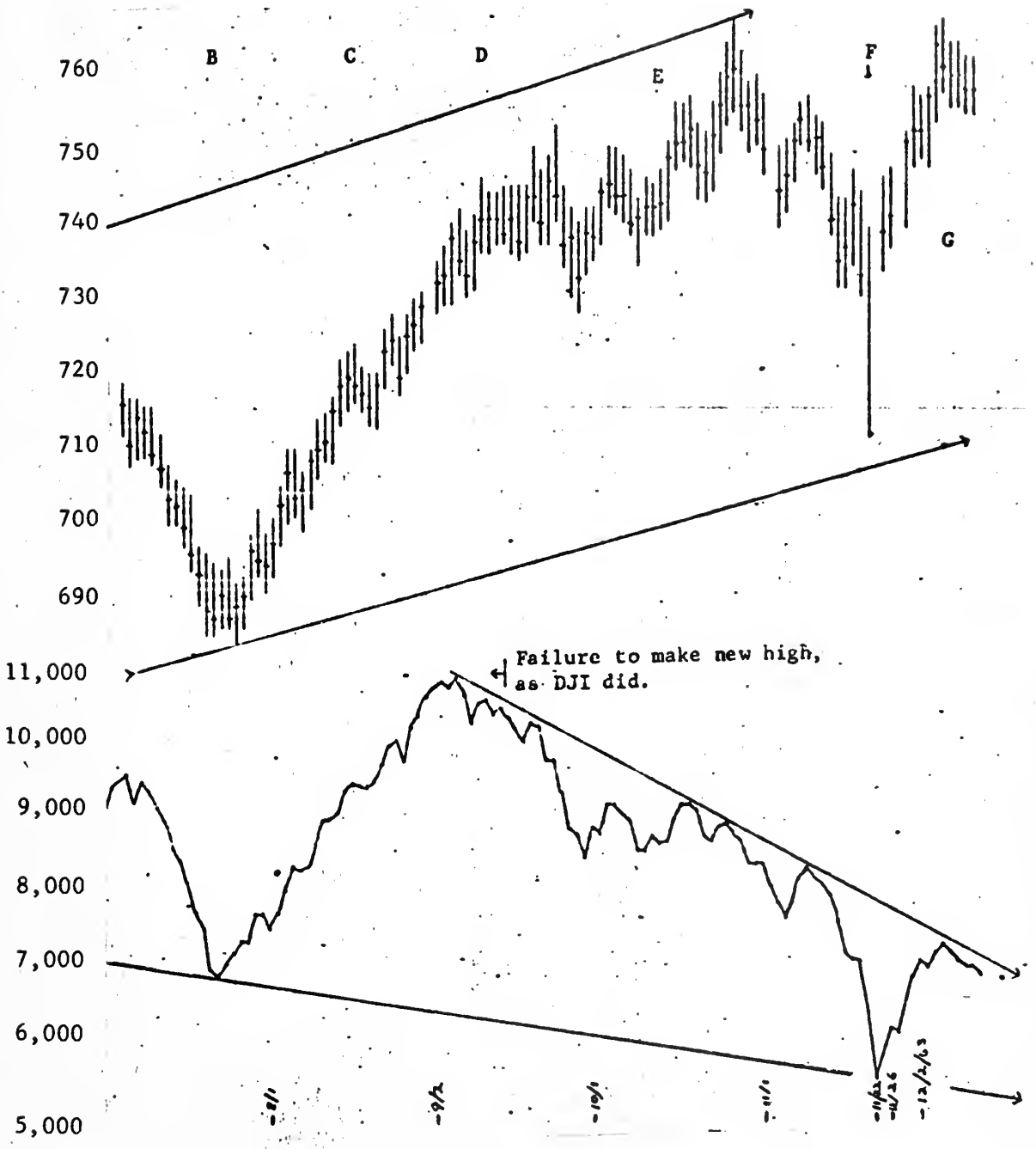

Figure 9. A chart of the Advance-Decline Index with a bar chart of the Dow-Jones Industrial Average at the top. The decline at point F occurred on November 22, 1963 when President Kennedy was assassinated. Chart reproduced by permission of James Dines & Company, Inc.

indication of overall internal market strength.[28]

Technical indicators are those symptoms of market strength or weakness which appear to have been historically significant. The danger in selecting these indicators is that past significance may have been coincidence. There was a period of some years in which the market finished the year at a level higher than that at the start of the year if the New York Yankees won the World Series. There was also a period in which the market followed the hemlines of ladies skirts as fashions changed. This indicator was even rationalized by relating the amount of material used by garment manufacturers and the resulting effect on the textile industry and the economy. In spite of these absurdities, certain indicators remain popular and appear to retain some significance. Indicators are only caution signals for the technician to be placed in perspective with other data available from the market. An upward movement of the stock of gold mining companies is considered bearish. The presence of the Dow-Jones Railroad Average above 170 and below the 1929 high has been followed by a market decline several times and is therefore considered bearish. When several stocks listed on the New York Stock Exchange move below well established support areas, a danger signal is flashed. When broker's loans move to an unusually high level, the technician feels that the market is not secure since a falling market would force out many investors who were using borrowed funds. The most activity followed indicator is the short interest on the New York Stock Exchange. This indicator is

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[28]These indexes and the indicators which follow were compiled from a continuing review of "The Dines Letter" by James Dines, "Technicians Perspective" by John W. Schultz, and "Investment Pointers" by Bradbury K. Thurlow. "The Dines Letter" is issued weekly on a subscription basis while the latter two articles are regular features in Forbes, a magazine printed twice monthly.

often considered a psychological indicator but is used almost exclusively by technicians. Because stock sold short must be purchased at some future time by those short, a large short interest is considered to be an indication of strength underlying the market. The short interest is more fully discussed in Chapter IV.

The "moving investment line" has been a popular addition to the tools of the technician. This line is computed by adding up the closing price of a stock for a number of days and dividing this total by the number of days. For example, a 10 day moving investment line would be computed by adding up the closing price for the last 10 days and dividing the total by 10. Such lines may be computed for any number of days although the most popular are 10, 20, 100 and 200 day averages. This line is then computed daily and plotted with a chart of the stock. The same technique can be used on market averages. Based in the technical theory that a trend in being will continue, stock is purchased or sold as the chart of the stock price crosses and recrosses the moving investment line. One unusual aspect of this method is that it is used in a directly opposite manner by different technicians. Those who favor moving with the short term trend, buy stocks that move above the moving investment line and sell anytime the stocks descend below it.[29] On the other hand, one well known Dow Theory technician uses a 200 day moving investment line on the Dow Jones Industrial Average as an indication of the primary investment trend. Therefore, he reasons, when the averages move below the investment line while the investment line has an upward trend, stocks should be bought.

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[29]Leon B. Allen, A Method For Stock Profits Without Price Forecasting (Garden City, New York: Doubleday and Company, Inc., 1962), pp. 8-26.

Quite naturally, this technician uses many other tools to reinforce his decisions and has been quite successful.[30]

In utilizing indexes, indicators, and particularly charts, the technician is normally an advocate of the use of stop orders to buy or sell in the market. Since his charts purport to show trendline penetrations and upside or downside breakouts, the technician is able to place these stop orders with some degree of confidence. The interesting aspect of this type of market behavior to the investor is the effect such stop orders can have on stock price. If a number of stop-loss orders are triggered by a slight decline in the stock, the effect may be to drive the price down considerably. In the past, such stop-orders have caused wild gyrations in certain stock prices and have, at times, been banned by the exchange in certain stocks. If a stock has a large following of technicians and the investor can become aware of this through market letters or brokers' advice, it would seem logical to take steps to move out of the stock above the popular stop loss point. Another alternative would be to buy stock that is believed to be a good investment after stop-loss orders have been executed. At the very least, an investor should recognize the fact that there appears to be a growing number of technically oriented

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[30]The technician referred to is E. George Schaeffer who writes a subscription market letter called "The Dow Theory Trader." As a measure of success, Mr. Schaeffer keeps records on a model investment account started in 1949 with $50,000. Remaining fully invested at all times, this account now has a value over $600,000. "The Dow Theory Trader" costs $125. annually.

investors in the market who can have a considerable effect on the price of certain stocks because they have independently determined the same stop loss points through the use of charting techniques.

Although charting techniques appear to offer a straight-forward method of analysis, the need for skill in interpretation and care in the selection of a stock remain critical. As an example, Fairchild Camera and Instrument appeared to be in an extremely favorable position in October, 1963. A P & F chart of Fairchild from January 1 to October 11, 1963 is shown in Figure 10. After a congestion area around 50, the stock had formed a clean down channel to the vicinity of the 1962 crash low at 31. At this point additional congestion reaffirmed the support area and the stock rallied. As can be seen in Figure 10, the stock subsequently formed a "triple bottom" which bears remarkable resemblence to a "head and shoulders" bottom. The uptrend that followed indicated that the stock was a buy except for the expected resistance near 50 due to the previous congestion. The market in this period was in a congestion area from which an upside breakout was generally expected due to steadily improving technical factors (see Point E, Figure 9). At this time, speculation over the possibilities of lasers, a device in which Fairchild was known to have substantial interest, drove the stock price straight upward in less than a week, without regard for the congestion area, to just over 55. Subsequently, the stock price plunged directly down and, with little hesitation, drove through the expected support price, to a low around 26. The only stop loss point available to the technician was at a price of 37 or 38. An extremely nimble trader did have an opportunity for profit but it is doubtful that the profit potential was equivalent to the risk involved. The true technician would have been forced to take a loss on this

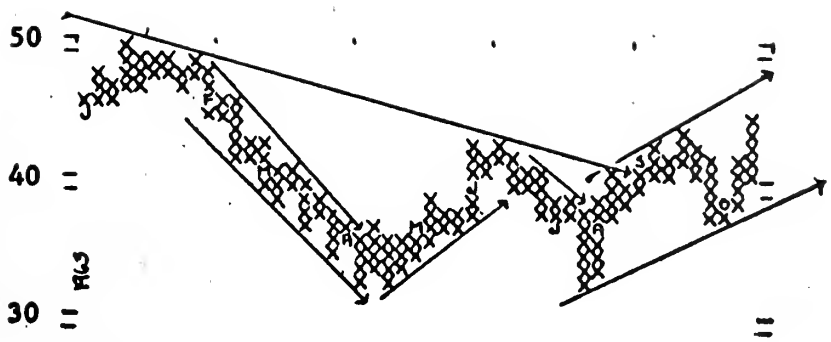

Figure 10. A one point Point and Figure Chart of Fairchild Camera and Instrument Corporation from January 1 to October 11, 1963 showing a down channel, a triple bottom, and an established up-trend. Chart reproduced by permission of James Dines & Company, Inc.

situation due to the buy signal in the low 40s and the stop loss at 38.

As can be seen, the efforts of the technician could be described as the endeavor of research and the art of interpretation. Technicians habitually use words like "usually" and "perhaps" in their analysis. Because of the interpretations required, technical analysis cannot be applied mechanically. It appears best to recognize that the tools of the technician are designed to improve the odds, not to be exactly correct all of the time. The technician assumes that the action of the market, particularly the price movement, is a complete and perfect expression of every positive and negative factor through the laws of supply and demand. Working backward from price, the technician attempts to deduce value.[31] Theoretically, technicians would not even need to know the name of the stock being followed to deduce its value and predict future price level.[32] It appears that the greatest benefit in technical analysis lies in consideration of the timing of purchases and sales. The art of interpretation required is the stumbling block to success.

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[31]Dines, "Point and Figure", p. 1.

[32]Edwards and Magee, op. cit., p. 6.

CHAPTER IV

PSYCHOLOGY, COMPUTORS, AND NEW FORCES

After all fundamental and technical analysis, there remain price movements which are seemingly unaccounted for. The stock of a poorly run company can go up without good news and without management being able to account for it. A blue-chip stock can drop without bad news. The factor involved is given the convenient name, psychology. The Fundamentalist includes this factor in the price-earnings ratio assigned but it is unpredictable and uncontrollable. The Technician includes this factor in the actual stock price which thereby allows (or forces) his charts to show an effect which has no direct measure.[1] In such a case, psychology can overrule charts or fundamentals with the analyst helplessly ensnarled.

The psychological approach to the market is not necessarily new.[2] Since psychology is the science of the traits, feelings, actions, and attributes, collectively, of the mind and the stock market is made by people buying and selling, it would be logical to expect certain psychological reactions in this market. Individual and collective behavior have been recognized and analyzed. As will be seen, it is in making an adequate measure of the forces of psychology that serious difficulties arise.

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[1] James Dines, "The Dines Letter," I:21 (New York: James Dines and Company, Inc., March 7, 1963), p. 1.

[2] Bernard M. Baruch credits much of his success to recognition of psychological forces in the stock market in the foreward to the book by Charles Mackay, Extraordinary Popular Delusions and the Madness of Crowds (London: Richard Bently, 1841, reprinted, USA: L. C. Page and Company, 1960), p. xiii.

Although efforts have been made with limited success, there remain many unanswered questions.

Stock analysts have formulated certain theories concerning such psychological behavior. In addition, certain indicators are used in an attempt to measure psychological forces. Although fundamentalists recognize some aspects of psychology in the projection of price-earnings ratios,[3] it is the technicians who pursue the subject to extremes. The action of new issues of common stock in 1961 and the market break in 1962 provided the examples of psychological forces which are often referred to by technicians to defend their theories and indicators.[4]

The technical approach to psychological forces in the stock market is based primarily on historical precedent augmented by some knowledge of the science of psychology. Every strong stock market rise in the past has been followed by some type of decline. Figure 11 is an unusual Point and Figure chart of the Dow-Jones Industrial Average from 1900 to March 1964. Trendlines indicate the long upward trend of the market as measured by this average. The declines which have followed advances can be clearly seen on this chart. In assessing these advances and declines, the technician assumes that collective action of demand is required to drive prices higher on many stocks simultaneously. Making some measurement of this collective action provides the technician with the basis for judging the

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[3]Benjamin Graham, David L. Dodd, and Sidney Cottle, Security Analysis (fourth edition; McGraw-Hill Book Company, Inc., 1962), pp. 420-23.

[4]For a specific example see John W. Schultz, "Technicians Perspective; From Crisis to Buying Climax," Forbes, 92:12 (December 15, 1963), pp. 44-45.

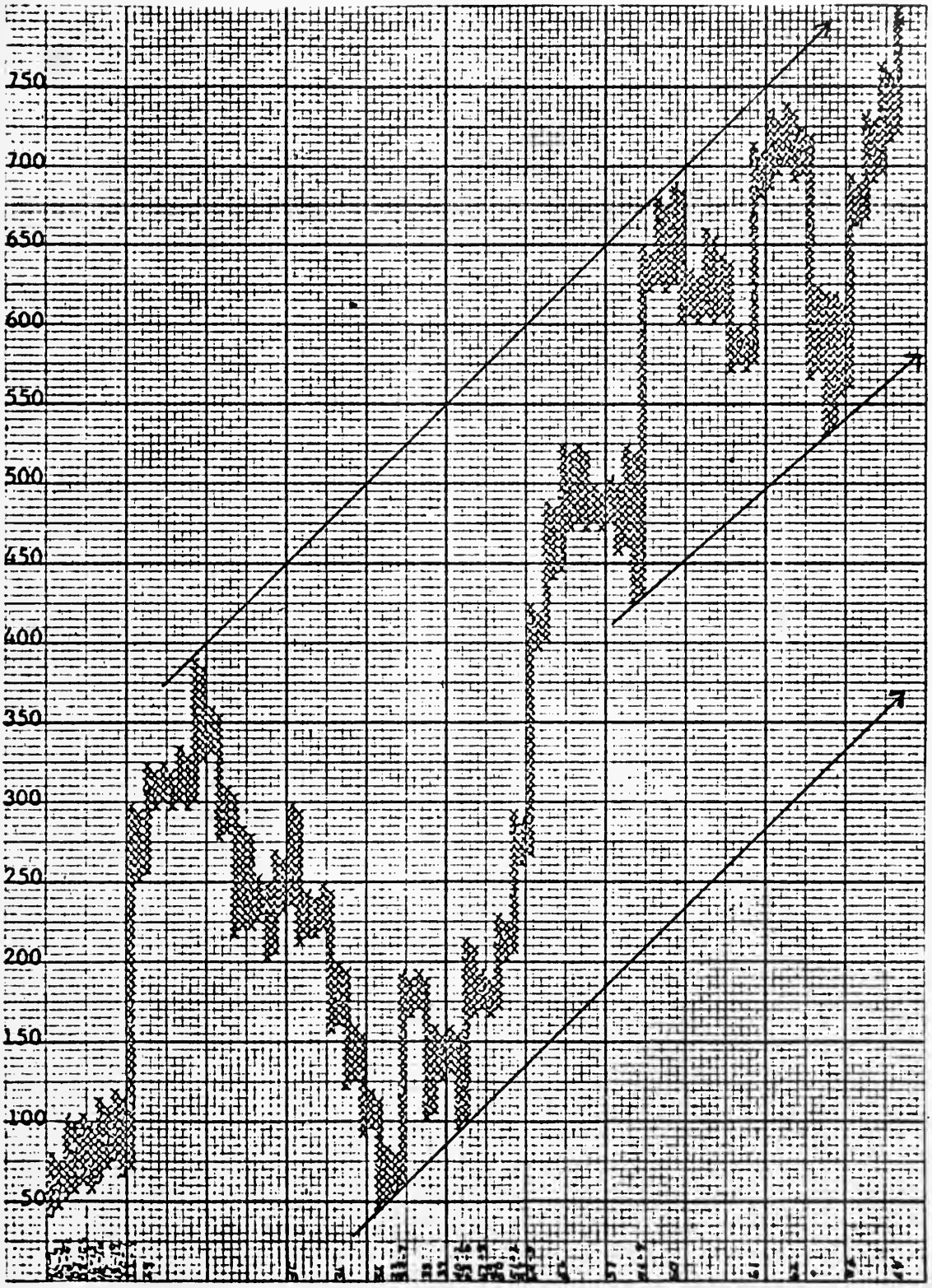

Figure 11. A five point, Point and Figure chart of the Dow-Jones Industrial Average from 1900 to March 1964 based on daily closing quotations. Trendlines indicate the broad upsweep of the market. Chart reproduced by permission of James Dines & Company, Inc.

extent of psychological forces in the market. Two of the most prominent theories thus derived are those of contrary opinion (with variations) and odd-lot statistics.

The Theory of Contrary Opinion was formulated by Humphrey Neill and is an effort to advise people to maintain their equilibrium rather than being swept along with the crowd.[5] This theory views a high degree of collective agreement as most probably wrong. However, this theory also advises against using this assumption as the basis for taking action contrary to the crowd. One well known technician has further refined the Theory of Contrary Opinion into "Theory of Positive Negativism." This theory states "if the public emotionally stampedes in one direction or the other on a topic other than provable scientific fact, they will be consistently and reliably wrong."[6] This theory is then used as the basis for taking action counter to the prevailing direction when public confidence has reached an emotionally high level.

Odd-lot statistics reveal the number of shares bought and sold on the New York Stock Exchange in less than round lot units. These figures, which are published daily, are used as the basis for the "odd-lot Theory." These figures are available for the amount of buying compiled separately from the amount of selling and are assumed to provide a measure of the attitude of the private investor-the public.[7] Round lot statistics on the stock exchange represent buying and selling combined. Historically, odd-lot selling has usually exceeded odd-lot buying all during a market rise until near the peak when buying would suddenly exceed selling. As a market peak

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[5] James Dines, op. cit., pp. 2-3.

[6] Ibid.

[7] John W. Schultz, "Technicians Perspective; Is a Bearish Public Bullish?", Forbes, 93:3 (February 1, 1964), pp. 40-41.

was reached and a decline set in, buying would continue to exceed selling until near the bottom of the decline when buying and selling sentiment would again change and the cycle would repeat. This action has led to the market saying. "The public is always wrong."[8] Although this uncomplimentary opinion is disputed, there is considerable evidence for it. Odd-lot sales exceeded purchases in all but two months of the 1961 bull market. Purchases exceeded sales in January 1962, exactly when the market began to fall, and continued this pattern in four of the next six months. In August 1962, sales again exceeded purchases just as the market recovery was getting underway. Sales continued to exceed purchases throughout 1963 while the market rose. There is further historical precedent for this theory. Odd-lot purchases exceeded sales in the first three quarters of 1953 when the market was falling. Sales became greater than purchases in late 1953 as the market began a sharp two year climb. The odd-lot theory was also particularly valid in 1957, 1958 and 1960. However, there have been certain period when the odd-lot theory did not hold true although these circumstances are much fewer in number. The most recent period when the odd-lotter was correct in judgment was late 1957 to early 1958. There are other factors to be considered also. For one thing, the odd-lotter and round lot investor trade most heavily in the same stocks. Of the 50 issues most actively traded in 1963 in round lots 37 were also among the 50 most heavily traded in odd-lots. In addition, the average price of all the stocks traded in odd-lots is usually higher than the average price for round lots, $51 to $39 in 1963. This leads

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[8] James Dines, "The Dines Letter," II:8 (New York: James Dines and Company, Inc., August 30, 1963), p. 1.

to the impression that the odd-lotter is more conservative than round lot investors.[9] The value of odd-lot purchases and sales in total dollars is also reported daily. The fact that odd-lot sales may be of a higher dollar value than odd-lot purchases (or vice versa) is not generally considered in the odd-lot theory.

Psychological indicators used by technicians generally follow a pattern of judging any action of the public as wrong. Thus, a high level of odd-lot short sales indicating public pessimism is bullish while a rise in total odd-lot volume indicating a high level of public participation during a rising market is bearish. Because the public is assumed to prefer lower priced stocks, rising price and volume trends in such stocks presage a move into the market by the public which is a danger signal. Insider transactions, buying and selling of stock of a corporation by the officers and others close to the management of the corporation (who are not considered part of the public), are also used as psychological indicators. Persistant buying is deemed bullish. Continued selling is bearish. The total short interest on the New York Stock Exchange and the short interest ratio (total number of shares short divided by the average daily volume for the month considered are a special psychological indicator to technicians. Corporate insiders are restricted by law from selling the stock in their corporation short. Investment companies and pension fund administrators are also normally prohibited from selling short. Therefore, although some short selling is

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[9]Victor J. Hillery, "Odd-Lot Recovery," The Wall Street Journal, April 23, 1964, pp. 1, 18.

done by traders, the total stock short is assumed to be a reflection, primarily, of public attitude. A large short interest is judged to be psychologically bullish in addition to the other technical implications discussed in Chapter III.[10]

Although considerable effort has been put into devising indicators by which the extent of psychological forces in the stock market can be measured, no high degree of reliability has been achieved. It appears that most, if not all, of the indicators used suffer from the same defect. Subjective interpretation as to the relevance of the figures obtained is required of the analyst. The use of historical precedent in testing the validity of such indicators is not considered reliable in a changing economy. The only rule of thumb available to the investor may well be to attempt to avoid being swept along in excessive optimism or pessimism.

The complexities of analysis, both in individual stocks and in the market, have led to increasing use of computors and data processing equipment. Because of the relative newness of such application, no definitive results have been reported. It is considered that such equipment can serve as a valuable aid in the rapid screening of comparative data.[11] However, unsupported claims are being made by market advisory firms that computor

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[10]These indicators are taken primarily from "The Dines Letter" by James Dines and "Technicians Perspective" by John W. Schultz. "The Dines Letter" is a weekly subscription market letter while "Technicians Perspective" is a regular feature article in Forbes, a magazine published twice monthly.

[11]United States Securities and Exchange Commission, Report of Special Study of Securities Markets, Part 1 (Washington: Government Printing Office, 1963), pp. 366-67.

research can solve the problem of forecasting stock prices and market swings.[12] In effect, these subscriptions services are attempting comparative fundamental stock and market analysis combined with aspects of technical analysis (usually trend analysis). The possibilities of such efforts are interesting to contemplate but many difficulties are likely to be encountered. A serious study by Clive W. J. Granger and Oskar Morgenstern reported in 1963 that the direction and extent of stock price movements are random for periods shorter than 40 months. Movements covering period of five years or more appear to be significantly nonrandom.[13] This study also determined that there is apparently little or no relationship between price and volume. Granger and Morgenstern conclude that "the short-term investor engages in a fair gamble, which is slightly better than playing roulette, since that game is biased in favor of the bank."[14]

Data processing equipment is a primary tool in studies at the Center for Research in Security Prices sponsored by the brokerage firm of Merrill Lynch, Pierce, Fenner and Smith at the University of Chicago. Also supported by the Ford Foundation and headed by Laurence Fisher and

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[12] Ibid. An example in the hands of the writer is an advertisement from Spear & Staff, Inc., of Babson Park, Mass., "announcing...COM-STAT (Computor Stock Analysis Technique). A Breakthrough Approach to Capital Gains Investing For a Limited Group of Sophisticated Investors Seeking Large Annual Capital Gains...made possible by a MODERN METHOD OF COMPUTOR STOCK ANALYSIS...." (Emphasis in original). Answers received to inquiries sent to two such services did not provide conclusive evidence as to the level of success achieved.

[13] Daniel Seligman, "Playing the Market with Charts," Fortune's Guide to Personal Investing (New York: McGraw-Hill Book Company, Inc., 1963), p. 182.

[14] Ibid. p. 183.

James H. Lorie, this Center is conducting research into a number of aspects of the securities market. The first study released reports on the rates of return available from investment in all the common stocks listed on the New York Stock Exchange since 1926 for varying time periods. Since the study concerns a simultaneous investment in all listed stocks, it appears to have only general interest. However, future research into areas such as whether successive changes in the prices of common stocks are statistically independent or serially correlated and the effect of dividends on stock prices could be of considerable significance to the investor.[15] Computors and related equipment appear to be well suited to serious analytical efforts such as this.

The "new forces" referred to in this chapter are the effects of the buying of common stock by institutional investors. A comprehensive article in Fortune describes and analyzes these forces.[16] The most significant aspects of this buying are the need for large purchases to be confined to the stocks of companies which have large capitalizations, and the huge outlay of investment money involved. Normally, institutional investors, which are essentially mutual funds, insurance companies, and pension funds, do not desire to acquire voting control of the companies invested in. This, plus the fact that such investments are often for an unusually long term, leads to the purchase of the stocks of the larger, higher quality companies-the blue chips. Those stocks backed by increasing earnings have been the subject of increased demand which has forced

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[15] Lawrence Fisher and James H. Lorie, "Rates of Return on Investments in Common Stocks," The Journal of Business XXXVII:1 (January, 1964), pp. 1-3.

[16] Daniel Seligman and T. A. Wise, "New Forces in the Stock Market," Fortune, LXIX:2 (February, 1964), p. 94.

prices up. Since institutional investors can aim to satisfy investment objectives further in the future than an individual normally can, the institutions are willing to pay a higher present price for common stocks of growing corporations. The fact that so much institutional money is invested in the stock market for the long pull also has a particularly stabilizing influence on the stocks involved. Although institutional investors could not hope to totally support stock prices if individuals should panic and sell, normal conditions should continue to reflect the new forces applied by institutions in the market place. Such a conclusion appears especially significant from the standpoint of the individual seeking a good investment. Riding with the tide of funds entering the market should increase the odds of success.

CHAPTER V

SUMMARY AND CONCLUSIONS

SUMMARY

There is a traditional view that the objectives of stock analysis are twofold. Such analysis should seek to present the important facts about a stock in a manner as to be informative and useful to the investor. Second, dependable conclusions should be reached as to the risk and attractiveness of an investment at the current market price or at some assumed price.[1]

This study has investigated the approach of the fundamentalist and the technician to investment. The fundamentalist performs extensive historical research, places his analysis in context with the present, and formulates a projection of the future. The technician views the market as the complete and perfect expression of supply and demand relationships, examines as many aspects of the market as possible, and formulates a projection of the future. Although there is a different orientation between these two approaches, both methods are ultimately concerned with the need to consider the area of greatest uncertainty, the future.

One facet of this study of particular interest to the writer was the opposition by fundamentalists and technicians to the methods employed by the other. The pure technician states that the fundamentalist studies historical facts which are outdated and sterile because the market is not interested in the past or present, only the future.[2] The dedicated

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[1] Benjamin Graham, David L. Dodd, and Sidney Cottle, Security Analysis (fourth edition; New York: McGraw-Hill Book Company, Inc., 1962), p. 1.

[2] Robert D. Edwards and John Magee, Technical Analysis of Stock Trends (fourth edition; Springfield: John Magee, 1962), p. 6.

fundamentalist asserts that chart reading cannot be a science, has not proved itself in the past, is based on faulty logic or mere assertion, and is in vogue only because such techniques have some advantage over haphazard speculation.[3] Despite these differences, it has become commonplace to find analysts using a combination of techniques in order to derive the most benefit from each method. Even where this is not true due to the personalities of the analysts involved, it has been possible for some third party, such as a brokerage firm, to coordinate the activities and report the results of independently conducted research.

Computors and data processing equipment are being used primarily as a tool to aid in the compilation and screening of data. A more esoteric use of this equipment to conduct stock analysis and forecast investment results is being attempted but has not gained wide acceptance. Further research and investigation in this field will undoubtedly continue in the future.

The need for regular investment of growing amounts of capital by mutual funds, insurance companies, and pension funds, the institutional investors, has put a special under pinning of demand in the market. As a force acting on the price of stocks of the larger, better managed companies, this investment demand appears likely to effect some distortions in prices while adding a degree of stability to the market.

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[3] Graham, Dodd, and Cottle, op. cit., pp. 713-16.

CONCLUSIONS

The common objective of investors is to maintain or increase the purchasing power of their money through investment. Although the approach to the stock market may differ, fundamental and technical analysis have the same objective. The fact that there are different approaches to common stock analysis proves that no single infallible approach exists. Each method of analysis seeks to reduce the risk of uncertainty which is inherent in projecting into the future. The fundamentalist, in obtaining and studying data, most closely approaches the traditional concept of ownership of a part of an enterprise. The fundamental approach seeks value in a corporation for the purpose of long term investment. The technician studies the activities of other investors through market action. He then attempts to make maximum use of the information thus revealed in timing purchases and sales.

Utilization of a combination of approaches to common stock analysis is both feasible and desirable. Implementation of such a program will tend to be quite time consuming because of the diversity of the approaches available for use. However, each aspect of investment that is not covered tends to increase the risk of uncertainty in such an investment. An investor in common stock must be willing to become a student of the market, examining each available piece of information and placing it in perspective. No technique should be discarded until it is examined and found wanting.

It is concluded that fundamental analysis should be used to evaluate the growth potential of any stock over the longer term. This analysis should consider market position and competition of the company considered,

the historical effects of managerial ability and the pattern of earnings growth. The investor should then utilize technical analysis to assist in timing the purchase and subsequent sale of the security. Price trends, support and resistance areas, and general technical condition of the market should be considered. The fact that most brokerage firms are equipped to assist the investor, in such an analysis contributes to the chance of success. Above all, the investor must realize that stock selection is the responsibility of the investor. He must also be aware that skill in selection has always been and will remain an art.

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